DOCUMENT RESUME

ED 292 235 EC 202 017

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TITLE Revolutionising the Tried and Trusted (An Examination of the Magnet Class System).
PUB DATE Jun 84
NOTE 19p.; Paper presented at the International Conference: Education for the Gifted "Ingenium 2000" (Stellenbosch, Republic of South Africa, June 26-29, 1984).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Ability Grouping; Ability Identification; Academic Achievement; Acceleration (Education); *Curriculum Development; Elementary Education; Foreign Countries; *Gifted; Grouping (Instructional Purposes); Integrated Activities; Mainstreaming; *Multigraded Classes; Outcomes of Education; *Program Development; Social Development; *Student Placement; Teaching Methods
IDENTIFIERS *South Africa (Capetown)

ABSTRACT

A school system in Cape Town, South Africa, developed a program called the "Combined Magnet Class" to serve gifted pupils from standards (grades) 3-5 in one classroom. Changes to the standard curriculum were made, and a pupil-determined pace was adopted. The pupils studied English, Afrikaans, and mathematics using a syllabus, for examination purposes. Geography, history, and science were integrated into projects, general discussions, and individual research. Such nonacademic subjects as art, woodworking, singing, physical education, and speech were done with age peers in other classes. In the program development process, careful attention was given to social factors, parental concerns, the need for physical space, and pupil selection procedures. The success of the program is evidenced by the pupils' academic achievement in English, Afrikaans, mathematics, history/geography/science, and integrated projects, along with their outstanding social development and their ease of transfer to high school. An evaluation of the program's applicability to other school systems concludes the paper. (JDD)

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"REVOLUTIONISING THE TRIED AND TRUSTED"

(An Examination of the Magnet Class System)

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Strategies for providing for gifted children

In an education system which has for decades known only straight rows of desks, a single syllabus for all and an "all eyes on the teacher" approach, attempts to introduce differentiation have had stormy passages. The introduction of gifted education in a formal sense in South Africa is bound to face similar stormy experiences.

To view changes which have occurred, to suggest further changes and to evaluate any form of experimentation, requires one to take account of the prevailing situation in South Africa. To ignore the social, cultural, religious and political nature of the people is to attempt an analysis or evaluation in a vacuum.

Education is generally conservative in nature and where the country is also regarded as conservative, changes in educational policy are bound to be slow. There are those whose philosophy of education still places heavy stress on the role of the teacher as the central figure in the educational relationship. Others, out of strong opposition to humanism, oppose child-centred and more individualistic approaches in education, believing that the focus of education should be on the society rather than on the individual, "The Christian National principle lies in its emphasis on the people rather than on the individual." (Buys, B.). Those with a strongly liberal philosophy oppose anything special being done for the gifted as being 'unfair'. Gifted education, with its strong emphasis on the child-centred, individualistic approach may find itself in conflict with such philosophies and the possible repercussions cannot be ignored.

One of the possible consequences of this conflict may be the tacking on of gifted education as an 'extra' to the existing system instead of providing

something genuinely different and educationally valid for the gifted pupil. The excellence of the existing system for the 'average' pupil is not in question, despite the variations from Province to Province and school to school. However, it remains a generally restrictive, fairly rigid, examination-bound system which does not appear to have the flexibility to meet the needs of gifted pupils in the normal course of events. There is still too much of ..."They all get put in little boxes and they all come out just the same".

The resistance on the part of some to allow any form of gifted education in normal school hours and insisting that all such provision for gifted pupils must be on an extra-mural basis may be a consequence of the conflict referred to. The system appears to be seen as all-important.

If education is meant to develop the potential of each individual pupil, then meaningful and genuine gifted education is likely, if introduced fully in the prevailing situation, to revolutionise the tried and trusted system as we have known it for so long. The sad alternative is the tacking on of something extra and retaining the existing system at all costs. But, that which is tacked on can as easily be untacked. It is not a case of throwing out the existing for something new but rather adjusting it to provide adequately for all pupils at all academic levels. Whether education is ready for such "revolutionary changes" is highly questionable. It may well be a long, drawn out battle where idealists and laagerists will both face deep inner conflicts before solutions are reached.

Experimenting in the Cape Province

The past two-and-a-half years has seen the introduction of many programmes of varying kinds in an attempt to meet the needs of gifted pupils. It is

right that a South African solution be found for a South African situation but in the process 'injuries' have and will continue to occur. The policy of allowing experimentation is highly commendable but before any real policy was developed, all schools were pushed into doing 'something'. That 'something' needed to be done is not questioned, nor is the obvious success that came from some of the experimenting. However, the pressure to do something brought with it failures, scepticism and criticism. Perhaps, like a mothers birth pains, the anguish of the present will give way to a healthy prodigy capable of catering for all our gifted pupils.

While some have experimented with 'Pull Out' programmes, others with enrichment and still others with mentor programmes, some have attempted to break away from the rigidity and meet the needs of gifted pupils in a fuller, more idealistic way. The term 'Magnet Class', as used in the Cape, refers to the grouping of gifted pupils on a full time basis, either in a single standard (grade) or by grouping together pupils of more than one standard. The latter approach to the Magnet Class is presently operative in at least two schools in the Cape Province, the one for two and a half and the other for one and a half years. The programme reviewed below has been in operation since January 1982.

1. The Combined Magnet Class

The Continuum Model for Ability Grouping (Clark, 1979) was used as the guide line in selecting an approach to use in the particular school. The School is situated in an educational environment, close to a University. It has a generally high academic standard and the potential number of gifted pupils was high. The school already had a measure of streaming or academic-grouping in the upper standards. There was no place for a

Super 'A' Class. Type 9 on the Continuum was selected as the approach best able to provide a meaningfully different education. It was further

Continuum Model for Ability Grouping (Clark, 1979)

felt that as good as one year in a Magnet Class would be, far more would be derived from being in such a class for three years. At the outset the stress was on academic giftedness. The School and the community already made provision for musical, artistic and physical talents and further extensions in these fields were already being planned. This did not mean overlooking these talents in the selected pupils. In planning the programme special attention was to be paid to the academic, social and affective factors.

1.1 The Academic Programme.

No class can be an island in the total system. Thus the decision was made

to do only the three basic subjects of English, Afrikaans and Mathematics for examination purposes. The basic syllabus, it is believed, must be thoroughly taught as a basis for all future learning. However, it is not the basic syllabus which is at fault. "In matters of curriculum, there is no lack of emphasis on teaching the basics. It is not the content which is questioned, but rather the unbending manner in which we approach the teaching the basics." (Khatena, 1982) It was thought imperative that the lock-step approach be removed and the pace be pupil-determined. In the area of mathematics a very different approach was tried. Instead of using each year's syllabus, one after the other, all aspects of each topic were joined together. For example, under the topic "fractions" all the work covered in Standards 3, 4 and 5 was covered. This is mathematically more sound and more logical for gifted pupils. It did however, involve the teacher in the writing of what amounted to a new text book.
Both the languages were to be handled as 'first languages'. It was obvious from the start that the whole approach was going to lead to very rapid progress and that subject acceleration would be inevitable.

Freed of examinations in the remaining subjects of Geography, History and Science, the plan was to integrate these subjects into projects and general discussions, moving away from the learning of isolated facts for examination purposes to an understanding of the subjects and in-depth studies in a limited number of areas. The stress was to be laid on individual research in project work. To the basics ..."must also be added the observation that schooling should not direct itself to teach gifted students what it predetermines is essential for them to know, but rather schooling should add ferment to education that will lead students (even

long after they have left the school confines) to be critical and creative thinkers of knowledge, independent in acquiring it, and generative in their expression of the new, unique and valuable. Hence, the delicate balance between depth and breadth, specificity and generality, routine and variety, and conservation and creativity should be among the hallmarks of curriculum development for the gifted." (Khatena, 1982)
In an attempt to find the delicate balance a decision was made to allow pupils the maximum possible freedom while still providing the required teaching and the all-important support needed by pupils to make use of the freedom in the most valuable way.

The non-academic subjects of art, woodwork, singing, physical education and speech were to be done with age peers in other classes. "By moving into integrated (gifted and nongifted) classes for subjects that stress talent rather than giftedness, the students can learn to appreciate other students for their abilities." (Clark, 1979). This policy was for social, academic and practical reasons. See 'Social Factors'.

1.2 Social Factors.

Fully aware of a possible back lash, elitism, peer rejection and parental jealousy, very careful attention was given to the social factors involved in this new approach. Several decisions were made at the outset:

1.2.1 Pupils were to do non academic subjects with their age peers to retain contact with the normal stream;

1.2.2 The whole programme was to be played down with an appeal to both the pupils involved and their parents to say as little as possible, the aim being to have the Magnet Class accepted as quickly as possible as just another class in the school.

1.2.3 The parent body as a whole was not to be told the details of what was involved, on the grounds that 'the less said, the soonest accepted'.

1.2.4 Outside the classroom pupils were to be treated as any other pupil in the school. All were to be encouraged to participate as fully as possible in extra-mural activities and be fully involved in the life of the school.

1.2.5 Social acceptance was to be very carefully monitored. A period a week was set aside each week for group discussion where pupils could express their views, feelings, problems - a type of release valve! In addition the teacher retained a very open contact with pupils.

1.3 Affective Factors

Parents expressed real fears of emotional strains and stresses that pupils might face and these were to be carefully watched. The school does not have ready access to psychological services at a moments notice but by keeping a constant vigil we believed we could prevent the need for such services arising.

1.4 Selection of Pupils

Although the go-ahead for the programme to start in January 1982 only came in October 1981, some form of pupil selection had already been undertaken. Regretably, selection procedures were very restricted through inexperience and lack of time. Selection was to be based on teacher recommendation, the Slossen Intelligence Test and / or available S.A.G.T. or other I.Q. tests and general academic performance.

1.5 Physical Space

In an already overcrowded school the library was the only available space which could be used and pupils were to use empty classrooms when formal teaching was required. It took a few days to prove that this was totally impractical and the physical education changing room was hastily converted into a classroom. The addition of a few carpets reduced the echo in this concrete floored room. Such was the determination of 17 pupils and one teacher to make a success of this venture that the small matter of space was not going to be allowed to upset anyone.

Thus a policy was developed two and a half years ago. To make the policy work and retain the required flexibility was the task ahead for the teacher. Given the full backing of the Headmaster, the teacher was given a free hand in the implementation of the policy.

2. Two and a half years later

If lessons are to be learnt from this experiment then it seems essential to review the academic progress and social development of pupils, the advantages and disadvantages of the programme for both pupils and teachers, and to attempt some evaluation of the relative success or failure of the programme. No attempt has been made to quantify the information at this relatively early stage, but simply to comment on specific aspects of the programme.

2.1 Academic Progress

The anticipated rapid progress occurred immediately and pupils amazed themselves with their progress. This progress was not just in the quantity of syllabus work covered in such a short time, but the level at which pupils found themselves working. At the end of the first year pupils were asked

to comment on their own progress and all expressed the view that they had never realised what they could do!

The younger pupils gain enormously from the exposure to older, more mature pupils while the older pupils gain a sense of freedom and responsibility towards their work and towards other pupils.

Some of the most noteworthy progress can be summed up as follows:

2.1.1 English

The whole level is geared at least two years or more above the normal standard and the freedom allows far greater in-depth study to occur in literature, language and poetry. The first year in the class is spent on more formal teaching as certain basics must be covered first. Three particular aspects stand out, namely the development of creative writing (and poetry in particular), drama and public speaking. The whole atmosphere in the class allows for the development of self-esteem, confidence and freedom of expression. One cannot stress too strongly the importance of gifted pupils being able to express themselves clearly and concisely both in writing and orally.

2.1.2 Afrikaans

In an English school, situated in an English environment, the change from Afrikaans Second Language to First Language proved an enormous step and a challenge. The response has been generally very positive although some have really struggled. As a result this has probably been the area which has required the most formal teaching. For those who have always found everything so easy, there is advantage in facing a challenging struggle.

2.1.3 Mathematics

The existing syllabus from standards three to five (grades five to seven) is seen as totally inadequate for gifted children, even where the subject

is not their area of greatest strength. There is really no more than 12 months work in the three years' syllabus. The number of periods of formal teaching were reduced to three or four per week and a great deal was done over and beyond the syllabus. Being a sequential subject, subject acceleration has been adopted without apology. Pupils have responded to the challenges in a most positive way. Perhaps it is all summed up in the words of a 9 year-old after a few weeks in the Magnet Class,

"It is so nice not to have to listen to the same explanation forty times over when you have understood it the first time."

2.1.4 History / Geography / Science

No formal teaching was given in the first 18 months but all learning was through integrated projects, individual research and discussion. At the end of that period limited 'formal' teaching was introduced by selecting the most relevant aspects of the syllabuses and far beyond, which would give a broad and deep base for further research and general studies in each particular subject.

2.1.5 Integrated Projects

The standard of the projects has risen to mind-boggling heights as pupils have become totally absorbed in their research. The immense pride in being free to produce their best has resulted in work which has far exceeded even the pupil's own wildest dreams. Disasters there have been, followed by very rapid learning! The emphasis in the projects is on integration and the development of higher order thinking. However, since many of the projects are in areas totally new to the pupils, there must initially be a great deal of gathering factual information before analysis, synthesis and evaluation can take place. This approach has required a great deal more time than normal being spent outside the

classroom, whether exploring the local river from its mouth to source or visiting diamond diggings on the Vaal River, 600 km away, whether attending lectures at the University or exploring new caves in the Oudtshoorn region. Education on site has come alive in a way that pupils have never experienced before. It is hardly surprising then that the resultant research in the form of projects is of such a high standard.

2.2 Social Progress

Despite the prophets of doom, the social development of pupils has, in many cases, been almost as spectacular as their academic progress. What social problems there have been are no different from those experienced in any normal class. Freed of the pressure of fulfilling syllabuses for examination purposes, there has been far more time to give to the all-important discussions of social and personalissues and informal leadership training. The totally open and free discussion of vital issues is so often missing from the normal school day and yet is as vital as any formal teaching.

In their study of 'Student, Parent and Teacher Attitudes Toward Gifted Programs and Gifted Students', Colangelo and Kelly (1983) state,

> "For parents and educators who are concerned about 'peer rejection', this study does not provide any evidence supporting such concern, anymore than whatever 'peer rejection' might result from participation in any activity that involves the exclusion of some students.... These results indicate that gifted students do want to participate in a special program and do want to spend part of their day in activities with other gifted students. Perhaps parents and educators should not dwell so much on 'peer rejection' (peers being general students). Rather they should focus on the importance of 'peer acceptance' (peers

being other gifted students)."

While it has not as yet been possible to undertake a similar study in the school concerned, the observations are that a very similar situation exists in the school. Pupils have been totally accepted by their peers in other classes and in their sporting teams. If there is one problem area it is the small amount of negative criticism from parents whose children are not selected for the programme

What has been most obvious is the development of self-esteem, maturity and confidence from being part of an academic peer group.

2.3 Changes

Flexibility is always a key factor and the 'system' has not and must not become rigid or formalised. Thus over the past 30 months changes in direction and planning have occurredand further changes are contemplated to meet the needs of the pupils at any particular time.

2.3.1 Selection

From the second year selection of pupils was considerably improved with the use of the S.A.G.T. with Standard 2 pupils, a standardised reading experience test, an arithmetical ability test, an examination of academic performance, teacher recommendations and the observance of pupils in a 'Pull Out' group while in Standard 2. Thus the I.Q. (S.A.G.T.) becomes merely a final confirmation factor, while pupil motivation can be very closely observed in the Pull Out programme.

(At present the average I.Q., using the Group Test, is 140 while the reading and arithmetic abilities are two to five years above chronological age. Further, teacher recommendations have shown a high correlation with other testing.)

2.3.2 Group Teaching

In the first two years it was possible to combine groups for certain

formal teaching, even in the major subjects. However, in the third year there are three distinct groups and it is only in the area of integrated project work that combining remains relatively possible. At the end of the second year the Standard Four pupils were academically ready to enter Standard 6. However, one of the strongest cases for the Magnet Class lies in the possibility of avoiding grade skipping by being able to provide an advanced and enriched education.

2.4 Transfer to High School

One of the most common questions asked by parents and others is what will happen to these pupils when they enter High School (Grade 8 to 12). The fact that these pupils did no formal history, geography and science raised additional questions about their ability to cope. It may be too early to make categorial statements at this stage but, so far seven boys who have had either one or two full years in the Magnet Class have entered High School without any problem whatever. They were at no disadvantage academically or socially. Some expressed the view that they felt the experience had been a real asset. Most have gone to a High School which has some form of extended learning programme, and which offers, over and above an overall high academic standard, the opportunity to do Ad-Maths, Ad-Science and Ad-English, as well as Afrikaans (First Language). One pupil has gone to a Transvaal High School and three have moved to other Primary Schools, all fitting back without any major disaster. It is clear that the more the School had to offer in the form of extended learning or the more the concern for gifted education, the easier the pupil found the move.

2.5 Past and Present Problems and Future Changes

In the initial stages of developing the Magnet Class three pupils were returned to the normal stream after one term as a result of being either unwilling and/or unable to cope due to emotional situations or other environmental factors beyond the control of the School. It is likely that this would have been avoided had there been greater experience at the time, as strong doubts had been expressed about all three of these pupils.

The very freedom to go ahead has created the problem of widening the gap in academic levels so that instead of there being approximately two years difference between Standard 3 and 5, this level has increased to as much as four years in some areas. This makes it very difficult for a pupil to enter the Magnet Class after Standard 3 (it is being done this year) and the demands on the teacher to cope with such a wide strong section make organization very difficult. In order to retain peer group contact in the non-academic subjects time-tabling is very difficult.

Another major problem is that the restricted entry gives rise to the exclusion of some pupils who would no doubt benefit from the experience. This problem is heightened by the non-existence of any other programme in the School apart from a small Pull Out group in Standard Three and a Pull Out in Standard Two which begins in the second half of the year.

In looking to the future it is likely that the class will be reduced to two years, thus reducing the spread of academic levels, reducing the teacher's load (particularly as he must write almost all the material used in the class), increasing the number of pupils who will ultimately benefit from the programme, and allowing time for the development of other programmes in the School for non-Magnet Class pupils.

3. An Evaluation

The demands of the programme have been made very high with bottom levels below which a pupil must not fall. In this way the programme has been made different and educationally meaningful for those for whom it was designed.

There can be no doubt that this is not a perfect solution to gifted education but it does seem to have been able to provide more than would have been the case had just a token programme been added to the existing system.

The South African system needs a South African solution and,however different and revolutionary the Magnet Class may be, it may provide a solution by providing gifted pupils with education which is geared to their academic level, allowing them the freedom to research and work at their pace, and retain a certain amount of peer contact in the non-academic classes. All this is shown to be possible on a fulltime basis, something which is essential for meaningful education since the gifted pupil cannot switch his giftedness on and off to fit a part time programme. As important is the possibility the programme provides of avoiding grade-skipping which so often arises from the inability of the school to provide for the pupil.

The success of the programme leads one to believe that this approach may hold the key for smaller schools where there are a limited number of gifted pupils, the combining of such pupils into one class offering them what can never be offered in the normal course of events.

The second possibility arising from this 'experiment' is the introduction of a gifted "stream", attached to selected schools whereby gifted pupils from Pre-primary to Standard 5, either in single or combined classes,

can have a continuous programme through the Primary School while still maintaining peer contact with pupils in the normal stream through the playground and sporting activities. There is no doubt that there would be considerable spin-off in the normal streams of such a school. This situation would provide all the advantages of a special school without total separation from the normal school. What is being suggested is, in fact, no different from the existing system of the "Special Class" system for those with sub-normal intelligence.

Conclusion

In the conservative South African education change will no doubt be slow but if the Magnet Class makes a meaningful contribution to the future development of education for the gifted, it will have been worthwhile. Great encouragement is drawn from some of the conclusions in the study by Colangelo and Kelly (1983), "However, it seems that the program has become accepted over the years. School districts that are about to initiate programs may receive stronger reactions (both positive and negative) simply because it is new. It would be important to present the program clearly and allow for the fact that some time needs to pass in order for people to accept it."

Time will have to pass before the Magnet Class or other full-time gifted education becomes accepted. In the meantime there are pupils showing the desire and the ability to handle and really benefit from this form of gifted education.

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